

Observations of observable vegetation symptoms in the Narromine Shire- on 8th September 2021

Authored by Michael Longhurst

This report makes observations as a follow up to “Condition Rating Report for Peppercorn Trees – Narromine and Trangie, 17th September 2020” compiled by Michael Longhurst and Alan Welch. This brief follow-up observational study was conducted at the request of the Community Overspray Groups.

The inspection sites were in the town of Narromine, roadsides to the West of Narromine and on one farming property (chosen due to its inclusion in prior vegetation monitoring programs and range of flora)

Since the breaking of drought conditions in February of 2020 this district has received above average rainfall and exceptional plant growing conditions.

Peppercorn Trees within Narromine:

Observations were conducted of the visible health condition of Peppercorn trees where multiple stands exist on the main carriageway through Narromine. These are located adjacent to the Rockwall Caravan Park, Golf Course and Peppercorn Motel.

The visual impression is that these stands of trees had not improved or have deteriorated since the inspection of September 2020, which is contrary to what would be expected give the higher than normal rainfall experienced in the last 12 months and the regrowth observed at that time. Leaf loss and tip necrosis are clearly evident.

Some Peppercorn trees that were in poorer condition at the previous inspection reinforcing the opinions canvassed by other vegetation experts that Peppercorn trees are primary indicators of herbicide spray drift or “canaries in the coalmine” for exposure to some causal agent.

Necrotic spots appear to be occurring on mature and emerging juvenile leaves on a more year round basis rather than being associated solely with the previously reported annual Autumn defoliation events.

The necrotic spots tend to be more frequent on upper and outer leaves and causing slow but steady degradation of tree and shrub health rather than immediate (or point source) and severe localised tree deaths.

Tree and Shrub Species West of Narromine:

Native tree and shrub species were inspected along with some previously visited Peppercorns assessed on prior study visits.

The overall impression is that most tree species are suffering a general decline across the landscape inspected. Canopy death and decline appear widespread with a range of species displaying symptoms. Loss of growth tips on some species from Autumn defoliation seems total on particular species (Bimble Box). Regrowth from storms that affected the area in December provide the age basis for epicormic regrowth with that obviously proceeding until the Autumn period where all growth tips are absent.

Species showing growth tip loss, leaf necrosis, leaf loss or death were: Bimble Box, Silver Leaved Ironbark, Kurrajong, Rosewood, Western Grey Box, Blue Mallee and White Cypress Pine.

Observational Conclusions:

The extent of tree and shrub decline in both species and extent, particularly in a post drought phase as has occurred in 2020 and 2021 is concerning. It would be expected that general tree foliage would be much denser and casting more shade with active growth commensurate with the seasonal conditions.

The major observation is that trees and shrubs are in a state of repeated decline even when 12 months or more of above average rainfall has occurred. The exact causal agent/s are not identifiable in a study such as this but urgent research and enquiry is warranted given the total impact of the damage visible across the area.

The common necrotic spots found across species indicates common impacts which preclude any conclusions toward disease or insect pressures being the casual agent.

This report reconfirms and calls for:

- **Investigation by environmental regulation authorities,**
- **In depth scientific study of the decline of farm trees in the Narromine/Trangie district (and any other rural districts displaying or reporting similar symptoms)**
- **Assistance by relevant bodies toward the exposed victims of the exposures.**

Michael Longhurst, 9th September 2021